ABSTRACT OF DISCLOSURE

A host system for generating a software built-in self-test engine (SBE) is provided for enabling on-chip generation and application of a re-generative functional test on a complex device such as a microprocessor under test. The host system comprises user directives provided to indicate user desired actions; instruction information provided to define a suite of instructions; and a SBE generation tool arranged to generate a software built-in self-test engine (SBE) based on the user directives, the instruction information and device constraints, for subsequent storage on-board of a complex device such as a microprocessor under test and activation of a re-generative functional test on the complex device under test (DUT).